# Physical Science

# EOC REVIEW

## PRACTICE EOC EXAM 1

# Physical Science
# Objective 4.03

A car plays its radio as it drives toward a student at a steady speed. How can the driver of the car best decrease the wavelength of the sounds heard by the student?

- Amake the radio louder
- Bmake the radio less loud
- Cincrease the speed of the car
- Ddecrease the speed of the car

- **ANSWER: C**

# Physical Science
# Objective 4.03

**The Doppler effect is an apparent change in what?**

- **Aamplitude**
- **Bintensity**
- **Cloudness**
- **Dpitch**

- **ANSWER: D**

# Physical Science
# Objective 4.02

**Which of the following is the bending of waves around a barrier?**

- **Adiffraction**
- **Binterference**
- **Creflection**
- **Drefraction**

- **ANSWER: A**

# Physical Science
# Objective 4.01

**What is the most penetrating kind of electromagnetic radiation?**

- **Agamma rays**
- **Bmicrowaves**
- **Cradio waves**
- **DX-rays**

- **ANSWER: A**

# Physical Science
# Objective 4.01

**The electromagnetic waves with the shortest wavelengths are called what?**

- **Agamma rays**
- **Bradio waves**
- **Clight**
- **DX-rays**

- **ANSWER: A**

# Physical Science
# Objective 4.01

**What occurs when compressions and rarefactions of different waves coincide?**

- **Aamplitude**
- **Bconstructive interference**
- **Cdestructive interference**
- **Dnoise pollution**

- **ANSWER: B**

# Physical Science
# Objective 4.01

**Sound energy traveling through air is an example of what?**

- **Aenergy**
- **Bmatter**
- **Cenergy transferred**
- **Dmatter transferred through matter**

- **ANSWER: C**

# Physical Science
# Objective 4.01

**Which of the following has the greatest penetrating ability?**

- **AX-rays**
- **Bgamma rays**
- **Cradio waves**
- **Dultraviolet waves**

- **ANSWER: B**

# Physical Science
# Objective 4.01

**Electromagnetic energy comes in what form?**

- **Ainvisible form only**
- **Bvisible form only**
- **Cboth invisible and visible forms**
- **Dhigh frequencies only**

- **ANSWER: C**

# Physical Science
# Objective 4.01

**When the wavelength of a water wave is increased, what other characteristic of the wave will also increase?**

- **Aits frequency**
- **Bits period**
- **Cits amplitude**
- **Dits speed**

- **ANSWER: B**

# Physical Science
# Objective 3.03

**A student connects a 10 V battery to a light bulb and a 20 ohm resistor. Which change will make the light bulb the brightest?**

- **Ause a 20 V battery with a 5 ohm resistor**
- **Buse a 20 V battery with a 20 ohm resistor**
- **Cuse a 10 V battery with a 5 ohm resistor**
- **Duse a 10 V battery with a 30 ohm resistor**

- **ANSWER: A**

# Physical Science
# Objective 3.03

**A circuit is in series if which of the following is true?**

- **Adifferent parts are on separate branches**
- **Belectrons may take different paths**
- **Celectrons have only one path to follow**
- **Dmore than one circuit exists**

- **ANSWER: C**

# Physical Science
# Objective 3.03

**An instrument that measures the potential difference is called what?**

- **Aan ammeter**
- **Ba commutator**
- **Can ohmmeter**
- **Da voltmeter**

- **ANSWER: D**

# Physical Science
# Objective 3.03

**Resistance is measured in a unit called what?**

- **Aampere**
- **Bcoulomb**
- **Cohm**
- **Dvolt**

- **ANSWER: C**

# Physical Science
# Objective 3.03

**The rate at which an electrical device converts energy from one form to another is called what?**

- **Aelectrical energy**
- **Belectrical power**
- **Celectrical resistance**
- **Dvoltage regulation**

- **ANSWER: B**

# Physical Science
# Objective 3.04

A student walks into a bedroom and notices 2 switches. When one switch is flipped, the light in the room turns on. When the other switch is flipped, both the radio and the fan come on. Which statement best describes how the light, radio, and fan are connected?

- AAll three are connected in series.
- BAll three are connected in parallel.
- CThe radio and the fan are connected in series.
- DThe radio and the fan are connected in parallel.

- **ANSWER: C**

# Physical Science
# Objective 3.05

The electrons with iron, nickel and cobalt behave in a unique fashion and can create strong magnetic fields. A coil made of copper wire carrying an electric current can also create strong magnetic fields. Based on these facts, what can you conclude is the fundamental cause of all magnetic fields?

- Aobjects made of iron, nickel or cobalt
- Bobjects made of copper
- Cobjects made of metal that are shaped like a horseshoe or a coil
- Dobjects that contain moving electric charges
- **ANSWER: D**

# Physical Science
# Objective 3.05

The magnetic force of a magnet is which of the following?

- Athe same at all parts of the magnet
- Bstrongest at the center
- Cstrongest at the poles
- Dweakest at the poles

- **ANSWER: C**

# Physical Science
# Objective 3.05

**All of the following actions would weaken the strength of a permanent magnet *except* which one?**

- **Aheating it with a bunsen burner**
- **Bdropping it on the ground**
- **Chammering it with a hammer**
- **Dsubmersing it under water**

- **ANSWER: D**

# Physical Science
# Objective 3.01

Two socks are removed from a dryer and stick together because of static electricity. Which statement best describes the charge on the socks?

- AThey each have the same electric charge.
- BThey have opposite electric charges.
- CThey are both neutral.
- DThey have both been grounded.

- **ANSWER: B**

# Physical Science
# Objective 3.01

- When conducting demonstrations with a gold-leaf electroscope, students find that it is very difficult to cause the two leaves of the electroscope to attract and stick together. The best explanation for this is which of the following?
  - AIt is difficult to add electrons to one leaf and remove electrons from the other leaf.
  - BIt is difficult to remove electrons from one leaf while leaving the other leaf neutral in charge.
  - CIt is difficult to add electrons to both leaves.
  - DIt is difficult to remove electrons from both leaves.
  - **ANSWER: A**

# Physical Science
# Objective 3.01

**What is static electricity?**

- **Aelectrons that are moving**
- **Belectrons that move from one object to another and then stay at rest**
- **Celectric current**
- **Dprotons that are moving**

- **ANSWER: B**

# Physical Science
# Objective 3.01

**Negatively charged particles emitted from a nucleus at a high speed are called what?**

- **Aalpha particles**
- **Bbeta particles**
- **Cgamma rays**
- **DX rays**

- **ANSWER: B**

# Physical Science
# Objective 2.01

**The amount of energy it takes to raise the temperature of 1 kg of material 1 K is called what type of energy?**

- **Aheat energy**
- **Bmechanical energy**
- **Cspecific heat**
- **Dthermal energy**

- **ANSWER: C**

# Physical Science
# Objective 2.01

**Through which of the following will convection most likely occur?**

- **Aliquids and gases**
- **Bsolids and liquids**
- **Csolids**
- **Dsolids and gases**

- **ANSWER: A**

# Physical Science
# Objective 2.01

**What is matter called that has a definite volume and a definite shape?**

- **Agas**
- **Bliquid**
- **Cplasma**
- **Dsolid**

- **ANSWER: D**

# Physical Science
# Objective 2.01

- Which of the following is an example of physical change?
- Aboiling of water, bursting a balloon, and melting a candle
- Bburning of gasoline, rotting of an egg, and exploding fireworks
- Cfreezing of water, evaporation of gasoline, and rusting a nail
- Dsawing of wood, crushing a can, and toasting a marshmallow
- **ANSWER: A**

# Physical Science
# Objective 2.01

As the temperature of a substance increases which of the following is true?

- AThe molecules in the substance are moving slower.
- BThe molecules in the substance are at rest.
- CThe molecules in the substance are moving faster.
- DThe substance contains stored energy.

- **ANSWER: C**

# Physical Science
# Objective 2.01

**The sun's heat reaches the earth by means of which of the following?**

- **Aradiation**
- **Bconvection**
- **Cconduction**
- **Dconvection, radiation, and conduction**

- **ANSWER: A**

# Physical Science
# Objective 2.02

- **A car going 15 m/s travels on a level road. The driver uses the brakes to stop the car. Which statement best describes the changes in the kinds of energy the car has as it slows to a stop?**
  - **AKinetic energy increases, potential energy decreases, no heat energy is given off.**
  - **BKinetic energy decreases, potential energy remains the same, no heat energy is given off.**
  - **CKinetic energy decreases, potential energy decreases, heat energy is given off.**
  - **DKinetic energy decreases, potential energy remains the same, heat energy is given off.**
  - **ANSWER: D**

# Physical Science
# Objective 2.02

- Two toy cars are headed toward each other on a frictionless, level track. Car A has a kinetic energy of 30 J. Car B has a kinetic energy of 40 J. The cars collide and 10 J of heat energy is created in the collision. Which of these kinetic energies are most likely for cars A and B after the collision?
- ACar A has 40 J of kinetic energy while car B has 30 J of kinetic energy.
- BCar A has 25 J of kinetic energy while car B has 35 J of kinetic energy.
- CBoth cars have 35 J of kinetic energy.
- DBoth cars have 25 J of kinetic energy

- **ANSWER: B**

# Physical Science
# Objective 2.03

- **A heat engine is a device used to turn thermal energy into useful work. Which statement best explains why heat engines are *never* 100% efficient?**
- **ASome thermal energy gets turned into mechanical energy and is wasted.**
- **BSome thermal energy gets turned into potential energy and is wasted.**
- **CSome thermal energy gets turned into kinetic energy and is wasted.**
- **DSome thermal energy escapes to the surroundings and is wasted.**

- **ANSWER: D**

# Physical Science
# Objective 2.03

- A hot piece of iron is placed in contact with a cold piece of lead. Which best describes the changes in the amount of thermal energy for each block?
- AThe iron will gain heat energy while the lead will lose heat energy.
- BThe iron will lose heat energy while the lead will gain heat energy.
- CBoth metals will lose heat energy.
- DBoth metals will gain heat energy.

- **ANSWER: B**

# Physical Science
# Objective 1.03

**A student lifts a book bag from the floor to the seat of a chair. Which method will allow the student to complete this task while expending *less* power?**

- **Alifting the book bag more slowly**
- **Blifting the book bag more quickly**
- **Clifting a book bag filled with heavier books**
- **Dlifting the book bag from the floor to a desk in the same amount of time**

- **ANSWER: A**

# Physical Science
# Objective 1.03

A student lifts a toy car of mass 2 kg to the top of a ramp. When the car rolls to the bottom of the ramp, it gains a speed of 3 m/s. What was the potential energy of the car at the top of the ramp?

- A 3 J
- B 6 J
- C 9 J
- D18 J

- **ANSWER: C**

# Physical Science
# Objective 1.03

**The kinetic energy of an object increases as its what increases?**

- **Agravitational energy**
- **Bpotential energy**
- **Cspecific heat**
- **Dvelocity**

- **ANSWER: D**

# Physical Science
# Objective 1.03

**The rate at which work is done is called what?**

- **Aefficiency**
- **Beffort time**
- **Cforce**
- **Dpower**

- **ANSWER: D**

# Physical Science
# Objective 1.03

**A device that does work with only one movement and changes the size or direction of a force is what?**

- **Aa compound machine**
- **Ban effort machine**
- **Ca screw**
- **Da simple machine**

- **ANSWER: D**

# Physical Science
# Objective 1.02

John goes over the top of a hill at a speed of 4.0 m/s while on his bicycle. Four seconds later, his speed is 24 m/s. What is John's acceleration?

- A24 $m/s^2$
- B20 $m/s^2$
- C 6 $m/s^2$
- D 5 $m/s^2$

- **ANSWER: D**

# Physical Science
# Objective 1.02

**Susan drops a ball, and 2 seconds later the ball has a speed of 20 m/s. What is the acceleration of the ball?**

- **A 40 $m/s^2$**
- **B 20 $m/s^2$**
- **C 10 $m/s^2$**
- **D 5 $m/s^2$**

- **ANSWER: C**

# Physical Science
# Objective 1.02

**Forces that are equal in size and opposite in direction are what kind of forces?**

- **Abalanced forces**
- **Bfrictional forces**
- **Cgravitational forces**
- **Dnet forces**

- **ANSWER: A**

# Physical Science
# Objective 1.02

**A 3000-N force gives an object an acceleration of 15 m/s$^2$. The mass of the object is what?**

- **A45,000 kg**
- **B 1,500 kg**
- **C 200 kg**
- **D 15 kg**

- **ANSWER: C**

# Physical Science
# Objective 1.02

**A 300-N force acts on a 25-kg object. The acceleration of the object is what?**

- **A 7,500 $m/s^2$**
- **B 300 $m/s^2$**
- **C 25 $m/s^2$**
- **D 12 $m/s^2$**

- **ANSWER: D**

# Physical Science
# Objective 1.02

**When a force is exerted on a box, an equal and opposite force is exerted by the box. These forces are called what kind of forces?**

- **Aaction-reaction**
- **Bcentripetal**
- **Cfrictional**
- **Dinertial**

- **ANSWER: A**

# Physical Science
# Objective 1.02

When an object moves in a circular path, it accelerates toward the center of the circle as a result of what force?

- Acentripetal force
- Bfrictional force
- Cgravitational force
- Dcentrifugal force

- **ANSWER: A**

# Physical Science
# Objective 1.01

**A parked car reaches a velocity of 60 m/sec in 12 seconds. What is the acceleration of the car?**

- **A720 m/sec/sec**
- **B 0.2 m/sec/sec**
- **C 5 m/sec/sec**
- **D60 m/sec/sec**

- **ANSWER: C**

# Physical Science
# Objective 1.01

A mail truck takes 20 seconds to move between mailboxes that are 10 m apart. What is the average speed of the mail truck?

- A5 m/s
- B2 m/s
- C0.5 m/s
- D0.2 m/s

- ANSWER: C

# Physical Science
# Objective 1.01

**You are paddling a boat downstream at a speed of 4 m/sec. The river is flowing at a speed of 10 m/sec. How fast is your boat traveling?**

- **A 6 m/sec**
- **B14 m/sec**
- **C2.5 m/sec**
- **D 4 m/sec**

- **ANSWER: B**

# Physical Science
# Objective 1.01

**A bug crawls at a speed of 2 m/hr. If the bug has been crawling for 3.5 hours, how far has it traveled?**

- **A 7 m**
- **B11 m**
- **C 0.57 m**
- **D12 m**

- **ANSWER: A**

# Physical Science
# Objective 5.05

**Aluminum contains how many valence electrons?**

- **Athree valence electrons**
- **Bsix valence electrons**
- **Ceight valence electrons**
- **Dno valence electrons**

- **ANSWER: A**

# Physical Science
# Objective 5.05

**Aluminum contains how many valence electrons?**

- **Athree valence electrons**
- **Bsix valence electrons**
- **Ceight valence electrons**
- **Dno valence electrons**

- **ANSWER: A**

# Physical Science
# Objective 5.02

- Dot diagrams are used to represent which of the following?
- Aatomic numbers
- Batomic mass
- Cisotopes
- Douter electrons

- ANSWER: D

# Physical Science
# Objective 5.02

- A certain atom has 26 protons, 26 electrons, and 30 neutrons. Its mass number is determined to be what?
- A26
- B30
- C52
- D56

- ANSWER: D

# Physical Science
# Objective 5.02

- Of the following elements which one has the most even distribution of isotopes?
- Afluorine
- Bchlorine
- Cbromine
- Diodine

- ANSWER: B

# Physical Science
# Objective 5.02

- A particle that moves around the nucleus is called which of the following?
- Aan electron
- Ban ion
- Ca neutron
- Da proton

- ANSWER: A

# Physical Science
# Objective 5.02

- Atoms of the same element with different numbers of neutrons are called what?
- Aisotopes
- Bmetals
- Cmetalloids
- Dtransition elements

- **ANSWER: A**

# Physical Science
# Objective 5.04

- When two or more substances are combined so each substance maintains its own properties, the result is called what?
- Aa chemical change
- Ba compound
- Can element
- Da mixture

- ANSWER: D

# Physical Science
# Objective 5.03

- **Two small nuclei are joined together to form a larger nucleus and giving off energy. What is this process called?**
- **Agamma decay**
- **Balpha decay**
- **Cnuclear fission**
- **Dnuclear fusion**

- **ANSWER: D**

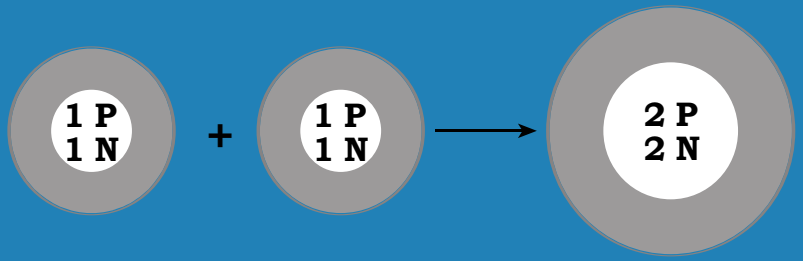
# Physical Science
# Objective 5.03

- **Which of the following radioactive changes result in a decrease in the number of nuclear particles present?**
- **Anuclear fusion**
- **Bnuclear fission**
- **Calpha decay**
- **Dbeta decay**

- **ANSWER: A**

# Physical Science
# Objective 5.03

- **What type of nuclear reaction is shown below?**




- **Aa chain reaction**
- **Ba chemical reaction**
- **Cnuclear fission**
- **Dnuclear fusion**

- **ANSWER: D**

# Physical Science
# Objective 5.05

**What kind of chemical bond is formed when electrons are transferred from atom to atom?**

- **Acovalent**
- **Bhydrate**
- **Cionic**
- **Dmagnetic**

- **ANSWER: C**

# Physical Science
# Objective 5.05

**The oxidation number of an atom is shown with which of the following?**

- **Anegative number**
- **Bpositive number**
- **Csubscript**
- **Dsuperscript**

- **ANSWER: D**

# Physical Science
# Objective 5.05

**The sum of the oxidation numbers in a neutral compound is which of the following?**

- **Aa negative number**
- **Bone**
- **Ca positive number**
- **Dzero**

- **ANSWER: D**

# Physical Science
# Objective 5.05

**The elements that make up a compound and the ratios of the atoms of those elements can be shown in which of the following?**

- **Achemical formula**
- **Bchemical symbol**
- **Csubscript**
- **Dsuperscript**

- **ANSWER: A**

# Physical Science
# Objective 5.05

**What is the total number of atoms in the compound $Ca(ClO_3)_2$?**

- **A3**
- **B5**
- **C6**
- **D9**

- **ANSWER: D**

# Physical Science
# Objective 5.05

A group of atoms that acts together as one charged atom is which of the following?

- Acrystal
- Bmolecule
- Cnegative ion
- Dpolyatomic ion

- **ANSWER: D**

# Physical Science
# Objective 5.05

**In a chemical formula, the ratio of atoms in the compound is shown by the numbers called what?**

- **Apostscripts**
- **Boxidation numbers**
- **Csubscripts**
- **Dsuperscripts**

- **ANSWER: C**

# Physical Science
# Objective 5.05

**How many hydrogen atoms are present in one molecule of ammonium acetate, $NH_4C_2H_3O_2$?**

- **A 3**
- **B 4**
- **C 7**
- **D12**

- **ANSWER: C**

# Physical Science
# Objective 5.05

**What is the name of the compound with the formula NaCl?**

- **Achlorine sodiate**
- **Bsodium chlorate**
- **Csodium chloride**
- **Dsodium dichloride**

- **ANSWER: C**

# Physical Science
# Objective 5.05

**What is the ratio of potassium atoms to oxygen atoms in a binary compound made from these two elements?**

- **A1:1**
- **B1:2**
- **C1:3**
- **D2:1**

- **ANSWER: D**

# Physical Science
# Objective 5.05

**What is the name of a binary compound made up of lithium and chlorine?**

- **Achlorine lithiate**
- **Bchlorine lithium**
- **Clithium chloride**
- **Dlithium chlorate**

- **ANSWER: C**

# Physical Science
# Objective 5.05

**What is the correct name for $K_2SO_4$?**

- **Apotassium disulfide**
- **Bpotassium sulfate**
- **Cpotassium sulfide**
- **Dpotassium(II) sulfate**

- **ANSWER: B**

# Physical Science
# Objective 5.05

**What is the charge of phosphate in $K_3PO_4$?**

- **A7–**
- **B3–**
- **C1+**
- **D5+**

- **ANSWER: B**

# Physical Science
# Objective 5.05

**What is the correct formula for magnesium oxide?**

- **AMgO**
- **$BMgO_2$**
- **$CMg_2O_2$**
- **$DMg_2O$**

- **ANSWER: A**

# Physical Science
# Objective 5.05

**Which of the following is the correct formula for magnesium nitrate?**

- **A $MgNO_3$**
- **B $Mg_2NO_3$**
- **C $Mg(NO_3)_2$**
- **D $Mg_2 (NO_3)_2$**

- **ANSWER: C**

# Physical Science
# Objective 6.04

$2H_2O \longrightarrow 2H_2 + O_2$ is an example of what type of reaction?

- Adouble replacement reaction
- Bsingle replacement reaction
- Csynthesis reaction
- Ddecomposition

- **ANSWER: D**

# Physical Science
# Objective 6.04

**When one element displaces another element in a compound, the reaction is called what?**

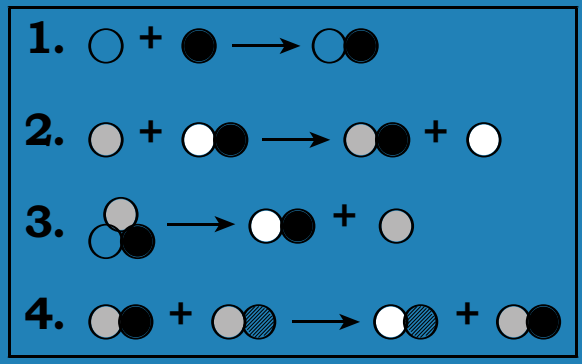
- **Adecomposition**
- **Bdouble-displacement**
- **Csingle-displacement**
- **Dsynthesis**

- **ANSWER: C**

# Physical Science
# Objective 6.04

**The reaction represented by model 4 in the figure below is called what type of reaction?**

- **Asingle displacement**
- **Bdecomposition**
- **Cdouble displacement**
- **Dsynthesis**

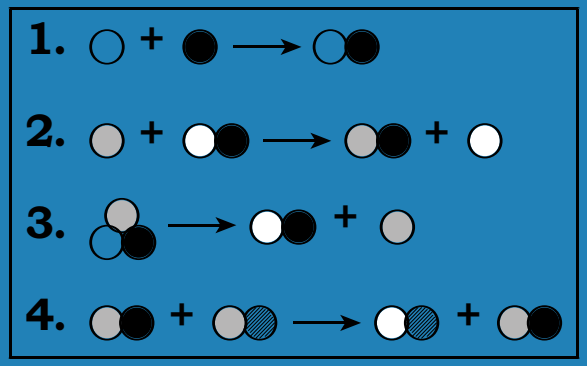



- **ANSWER: C**

# Physical Science
# Objective 6.04

**The reaction represented by model 3 in the figure below is called what type of reaction?**

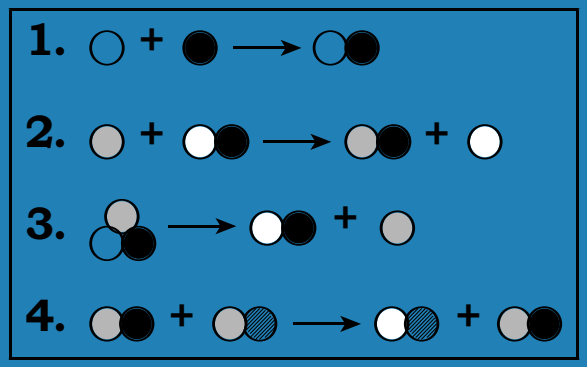
- **Asingle displacement**
- **Bdecomposition**
- **Cdouble displacement**
- **Dsynthesis**




- **ANSWER: B**

# Physical Science
# Objective 6.04

- The reaction represented by model 1 in the figure below is called what type of reaction?
- Asingle displacement
- Bdecomposition
- Cdouble displacement
- Dsynthesis

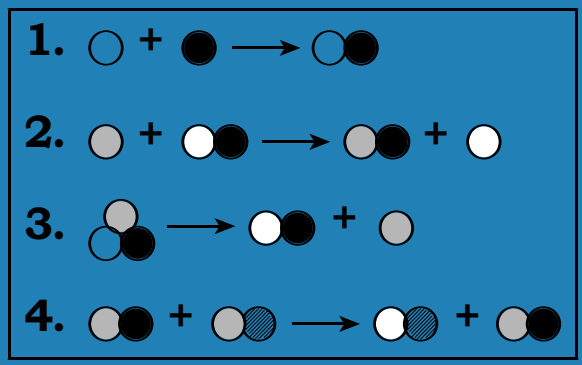



- **ANSWER: D**

# Physical Science
# Objective 6.04

**The reaction represented by model 2 in the figure below is called what type of reaction?**

- **Asingle displacement**
- **Bdecomposition**
- **Cdouble displacement**
- **Dsynthesis**




- **ANSWER: A**

# Physical Science
# Objective 6.04

**What type of reaction is shown in the following chemical equation?**

**$NH_3 + HCl \longrightarrow NH_4Cl$**

- **Adecomposition**
- **Bdouble displacement**
- **Csingle displacement**
- **Dsynthesis**

- **ANSWER: D**

# Physical Science
# Objective 6.04

**Which of the following is a balanced chemical equation?**

- **A** $AgNO_3 + NaCl \rightarrow 4AgCl + 2NaNO_3$
- **B** $2AgNO_3 + 2NaCl \rightarrow 3AgCl + 2NaNO_3$
- **C** $AgNO_3 + NaCl \rightarrow AgCl + NaNO_3$
- **D** $AgNO_3 + 2NaCl \rightarrow AgCl + 3NaNO_3$

- **ANSWER: C**

# Physical Science
# Objective 6.04

**The breaking down of a compound into simpler substances is called what?**

- **Adecomposition**
- **Bdisplacement**
- **Cproduction**
- **Dsynthesis**

- **ANSWER: A**

# Physical Science
# Objective 6.04

**Each substance on the left side of the arrow in a chemical equation is which of the following?**

- **Acatalyst**
- **Bcoefficient**
- **Cproduct**
- **Dreactant**

- **ANSWER: D**

# Physical Science
# Objective 6.04

**Each substance to the right of the arrow in a chemical equation is called what?**

- **Acatalyst**
- **Binhibitor**
- **Cprecipitate**
- **Dproduct**

- **ANSWER: D**

# Physical Science
# Objective 6.0

- According to the law of conservation of mass, how does the mass of the products in a chemical reaction compare to the mass of the reactants?
- AThere is no relationship.
- BThe mass of the products is greater.
- CThe mass of the reactants is greater.
- DThe masses are equal.

- ANSWER: D

# Physical Science
# Objective 5.06

**What is a solution?**

- **Atype of element**
- **Btype of molecule**
- **Chomogeneous mixture**
- **Dheterogeneous mixture**

- **ANSWER: C**

# Physical Science
# Objective 5.06

**Elements with oxidation numbers of –2 belong to what family of elements?**

- **Anitrogen family**
- **Boxygen family**
- **Calkaline earth family**
- **Dhalogen family**

- **ANSWER: B**

# Physical Science
# Objective 5.06

**Elements in Groups 3 through 12 of the periodic table are called what?**

- **Ametalloids**
- **Bmetals**
- **Cnoble gases**
- **Dtransition elements**

- **ANSWER: D**

# Physical Science
# Objective 5.06

**A chemical symbol represents which of the following of an element?**

- **Aname**
- **Breaction**
- **Cgroup**
- **Dstructure**

- **ANSWER: A**

# Physical Science
# Objective 5.06

**Horizontal rows of the periodic table are called what?**

- **Aclusters**
- **Bfamilies**
- **Cgroups**
- **Dperiods**

- **ANSWER: D**

# Physical Science
# Objective 5.06

**In a chemical equation, the symbol that means "dissolved in water" is which of the following?**

- **A(aq)**
- **B(cr)**
- **C(l)**
- **D(g)**

- **ANSWER: A**

# Physical Science
# Objective 5.06

**Numbers that precede symbols and formulas in a chemical equation are called what by chemists?**

- **Acatalysts**
- **Bcoefficients**
- **Csubscripts**
- **Dsuperscripts**

- **ANSWER: B**

# Physical Science
# Objective 6.01

A chemical reaction in which energy is released is called what?

- Aendothermic
- Bexothermic
- Cflammable
- Da formula

- ANSWER: B

# Physical Science
# Objective 6.01

**A substance that speeds up a chemical reaction without undergoing a permanent change itself is which of the following ?**

- **Aa catalyst**
- **Ba coefficient**
- **Can inhibitor**
- **Da reactant**

- **ANSWER: A**

# Physical Science
# Objective 6.01

If thermal energy must be added to a chemical reaction for the reaction to take place, the reaction is called which of the following?

- Abalanced
- Bendothermic
- Cexothermic
- Dreactant

- **ANSWER: B**

# Physical Science
# Objective 6.01

**Substances that prevent chemical reactions are called what by scientists?**

- **Acatalysts**
- **Binhibitors**
- **Cproduct**
- **Dreactants**

- **ANSWER: B**

# Physical Science
# Objective 6.04

**A solution that contains all the solute it can hold at a given temperature is called what kind of solution?**

- **Adiluted**
- **Bsaturated**
- **Csupersaturated**
- **Dunsaturated**

- **ANSWER: B**

# Physical Science
# Objective 6.04

**Which of the following will speed up the dissolving of a solid solute in water?**

- **ACool the solution.**
- **BFreeze the solute.**
- **CGrind up the solvent.**
- **DStir the solution**

- **ANSWER: D**

# Physical Science
# Objective 6.04

**The amount of solute that can be dissolved in a specific amount of solvent at a given temperature is called what?**

- **Aconcentration**
- **Bdensity**
- **Cdilution**
- **Dsolubility**

- **ANSWER: D**

# Physical Science
# Objective 6.04

**Adding more solute to a solvent does what to the solvent?**

- **Adecreases its boiling point**
- **Bdoes not affect its boiling point**
- **Cincreases its boiling point**
- **Dincreases its freezing point**

- **ANSWER: C**

# Physical Science
# Objective 1.01

A parked car reaches a velocity of 60 m/sec in 12 seconds. What is the acceleration of the car?

- A720 m/sec/sec
- B0.2 m/sec/sec
- C 5 m/sec/sec
- D60 m/sec/sec

**Answer: C**

## Physical Science
## Objective 1.01

You are paddling a boat downstream at a speed of 4 m/sec. The river is flowing at a speed of 10 m/sec. How fast is your boat traveling?

- A 6 m/sec
- B14 m/sec
- C 2.5 m/sec
- D 4 m/sec

**Answer: B**

# Physical Science
# Objective 1.01

**A bug crawls at a speed of 2 m/hr. If the bug has been crawling for 3.5 hours, how far has it traveled?**

- **A 7 m**
- **B11 m**
- **C 0.57 m**
- **D12 m**

**Answer: A**

# Physical Science
# Objective 1.01

A mail truck takes 20 seconds to move between mailboxes that are 10 m apart. What is the average speed of the mail truck?

- A5 m/s
- B2 m/s
- C0.5 m/s
- D0.2 m/s

**Answer: C**

# Physical Science
# Objective 1.02

John goes over the top of a hill at a speed of 4.0 m/s while on his bicycle. Four seconds later, his speed is 24 m/s. What is John's acceleration?

- A 24 $m/s^2$
- B 20 $m/s^2$
- C 6 $m/s^2$
- D 5 $m/s^2$

Answer: D

# Physical Science
# Objective 1.02

**Susan drops a ball, and 2 seconds later the ball has a speed of 20 m/s. What is the acceleration of the ball?**

- **A 40 $m/s^2$**
- **B 20 $m/s^2$**
- **C 10 $m/s^2$**
- **D 5 $m/s^2$**

**Answer: C**

# Physical Science
# Objective 1.02

Forces that are equal in size and opposite in direction are what kind of forces?

- Abalanced forces
- Bfrictional forces
- Cgravitational forces
- Dnet forces

Answer: A

# Physical Science
# Objective 1.02

John goes over the top of a hill at a speed of 4.0 m/s while on his bicycle. Four seconds later, his speed is 24 m/s. What is John's acceleration?

- A 24 $m/s^2$
- B 20 $m/s^2$
- C 6 $m/s^2$
- D 5 $m/s^2$

Answer: D

## Physical Science
## Objective 1.02

**A 3000-N force gives an object an acceleration of 15 m/s$^2$. The mass of the object is what?**

- A 45,000 kg
- B 1,500 kg
- C 200 kg
- D 15 kg

**Answer: C**

# Physical Science
# Objective 1.02

**A 300-N force acts on a 25-kg object. The acceleration of the object is what?**

- **A 7,500 $m/s^2$**
- **B 300 $m/s^2$**
- **C 25 $m/s^2$**
- **D 12 $m/s^2$**

**Answer: D**

# Physical Science
# Objective 1.02

When a force is exerted on a box, an equal and opposite force is exerted by the box. These forces are called what kind of forces?

- Aaction-reaction
- Bcentripetal
- Cfrictional
- Dinertial

Answer: A

# Physical Science
# Objective 1.02

When an object moves in a circular path, it accelerates toward the center of the circle as a result of what force?

- Acentripetal force
- Bfrictional force
- Cgravitational force
- Dcentrifugal force

Answer: A

# Physical Science
# Objective 1.02

When an object moves in a circular path, it accelerates toward the center of the circle as a result of what force?

- Acentripetal force
- Bfrictional force
- Cgravitational force
- Dcentrifugal force

Answer: A

# Physical Science
# Objective General

To test a hypothesis you

- Adraw a conclusion
- Bexperiment
- Ccollect information
- Dcommunicate

Answer: B

# Physical Science
# Objective General

Scientists do not

- Asearch for evidence
- Bhave a good imagination
- Cbase conclusions on supernatural powers
- Dtest a hypothesis

Answer: C

# Physical Science
# Objective General

The number of variables in an experiment should be

- A0
- B1
- C2
- D3

Answer: B

# Physical Science
# Objective General

The system of measurement commonly by scientist throughout the world is the

- Ametric
- BEnglish
- Cinternational
- DAmerican

Answer: A

# Physical Science
# Objective General

**The base unit of length is**

- **Ameter**
- **Bliter**
- **Cgram**
- **DCelsius**

**Answer: A**

# Physical Science
# Objective General

The base unit of mass is

- Ameter
- Bliter
- Cgram
- DCelsius

Answer: C

# Physical Science
# Objective General

**The base unit of volume is**

- **Ameter**
- **Bliter**
- **Cgram**
- **DCelsius**

**Answer: B**

# Physical Science
# Objective General

The base unit of temperature is

- Ameter
- Bliter
- Cgram
- DCelsius

Answer: D

# Physical Science
# Objective General

A kilogram equals

- A10 grams
- B1000 grams
- C100 grams
- D.1 grams

Answer: B

# Physical Science
# Objective General

After a first attempt to solve a problem, a scientist most likely will

- Areport conclusions to other scientists
- Brepeat an experiment
- Cwrite articles for scientific journals
- Dproceed to find new and different problems

Answer: B

# Physical Science
# Objective General

A factor that changes when introduced into an experiment is called the

- Avariable
- Bcontrol
- Ccheck factor
- Dweight factor

Answer: A

# Physical Science
# Objective General

Factors that stays the same in an experiment are called the

- Avariable
- Bcontrol
- Ccheck factor
- Dweight factor

Answer: B